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10/677,850

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Jeffrey Raynor

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ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.

1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE

P.O. BOX 3791

ORLANDO, FL 32802-3791

EXAMINER

LUDLOW, JAN M

ART UNIT

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ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY RAYNOR
and JEAN-LUC JAFFARD

Appeal 2009-013571
Application 10/677,850
Technology Center 1700

Before BEVERLY A. FRANKLIN, MARK NAGUMO, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 39-41, 43-58, and 60-65. We have jurisdiction under 35 U.S.C. § 6.

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Claim 39 is representative of the subject matter on appeal and is set forth below:

39. A method of attaching a sensor and a housing to opposite sides of a mounting substrate, the sensor comprising an integrated circuit die having a sensing face and comprising a sensing area and at least one signal output contact thereon, the mounting substrate having a circuitry face and at least one signal input contact thereon, the mounting substrate also having an opening therethrough and at least one landing adjacent the opening, the method comprising:

positioning the sensing area over the opening so that the at least one signal output contact of the sensor contacts the at least one signal input contact of the mounting substrate;

attaching the sensor to the mounting substrate in a flip-chip arrangement with at least one bump bond interposed between the at least one signal output contact of the sensor and the at least one signal input contact of the mounting substrate to pass signals therethrough, with the at least one bump bond being associated with the at least one landing so that the at least one bump bond is aligned with the at least one signal output contact of the sensor; and

positioning the housing in contact with the mounting substrate so that the housing and the sensor are in alignment.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Casson	5,349,500	Sep. 20, 1994
Bidiville	5,854,482	Dec. 29, 1998
Glenn	5,949,655	Sep. 7, 1999
Bauer	6,130,448	Oct. 10, 2000
Groger	6,300,638 B1	Oct. 9, 2001
Venkat	6,462,330 B1	Oct. 8, 2002

THE REJECTIONS

1. Claims 39-41, 43, 44, 46, 48-54, 57, 58, 60, 61 and 63-65 stand rejected under 35 U.S.C. § 103 as being unpatentable over Venkat in view of Bauer and in further view of Casson.
2. Claims 45 and 62 stand rejected under 35 U.S.C. § 103 as being unpatentable over Venkat in view of Bauer and Casson, and in further view of Glenn.
3. Claim 47 stands rejected under 35 U.S.C. § 103 as being unpatentable over Venkat in view of Bauer and Casson and in further view of Bidiville.
4. Claims 55 and 56 stand rejected under 35 U.S.C. § 103 as being unpatentable over Venkat in view of Bauer and Casson, and in further view of Groger.

ISSUE

Did the Examiner err in determining that the applied art suggests the claimed invention, and in particular, the aspect of claim 39 pertaining to “positioning the housing in contact with the mounting substrate so that the housing and the sensor are in alignment?”

We answer this question in the negative and AFFIRM.

ANALYSIS
(with Findings of Fact and Principles of Law)

As an initial matter, Appellants have not presented separate arguments for all of the rejected claims. Rather, Appellants' arguments are principally directed to independent claims 39 and 57. We select claim 39 as representative of these claims. Any claim not separately argued will stand or fall with its respective independent claim. *See* 37 C.F.R. § 41.37(c)(1)(vii). Also, we focus on Rejection 1 and our determination made with respect to Rejection 1 is dispositive for all of the rejections.

We essentially adopt the Examiner's findings pertinent to the issue raised by Appellants for this rejection. We therefore incorporate the Examiner's position as set forth in the Answer. We add the following for emphasis only.

We refer to the Examiner's fact findings on pages 3-6 of the Answer.

Appellants argue that Venkat fails to suggest that sensor 32 is mounted in a flip-chip arrangement. Br. 7. However, as pointed out by the Examiner on page 10 of the Answer, Appellants admit that the chip of Venket is mounted face down, as in a flip-chip arrangement. Br. 7, last full paragraph. The Examiner relies upon Bauer and Casson for specifically teaching a flip-chip arrangement using bump bonding. Ans. 4-5.

Appellants also argue that Venket does not make any reference to bump bonding since sensor 32 is not in a flip-chip arrangement. The Examiner does not rely upon Venkat for this teaching, but relies upon Bauer and Casson for teaching this aspect of the claimed invention. Ans. 4-5.

Appellants argue that Bauer is silent regarding alignment. Appellants argue that in Casson, self-alignment of the solder bump with the flip-chip is

based on the solder paste mixing with the solder bumps during heating, requiring an unobstructed motion of the flip-chip during reflow such that inclusion of an opening in the mounting substrate would impede the reflow. We are not convinced by these arguments for the reasons provided by the Examiner on page 10-12 of the Answer.

We add that regard to this issue of alignment, using solder bumps in place of Venkat's wires or pins for mounting chips face down suggests Appellants' claimed method, including "positioning the housing in contact with the mounting substrate so that the housing and the sensor are in alignment" because, as explained by the Examiner, the method of Venkat teaches this aspect of the claimed invention concerning alignment. The Examiner's fact findings made on page 4 of the Answer support the Examiner's position. *See also* page 11, third full paragraph, of the Answer. We incorporate the Examiner's findings and position in this regard herein.

We add that we mirror the Examiner's remarks, noting that the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art; one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991); *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Ans. 11.

In view of the above, we affirm each rejection

CONCLUSIONS OF LAW AND DECISION

Each rejection is affirmed.

Appeal 2009-013571
Application 10/677,850

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED

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ALLEN, DYER, DOPPELT,
MILBRATH & GILCHRIST, P.A.
1401 CITRUS CENTER
255 SOUTH ORANGE AVENUE
P. O. BOX 3791
ORLANDO, FL 32802-3791